

Remarks

This amendment is submitted in response to the non-final Office Action mailed July 29, 2004. The specification is amended herein to correct a spelling error. Replacement figures are further submitted to correct Figures 1-3.

The Office Action rejected claims 1 through 6 as being anticipated by United States Patent No. 3,988,715 to Mullan et al. ("Mullan"). By this paper, the Applicant amends independent claim 1 to traverse its rejection.

Claim 1 requires generating confidence indications indicative of a successful recognition of the corresponding candidate character. Mullan instead discloses joint conditional probability which evaluates the likelihood of character misrecognition by other channels. Column 4, lines 22-28, column 5, lines 18-21, and column 6, lines 21-26. A joint conditional probability value depends on joint misrecognition in all the other channels. Column 5, lines 42-26. Where three channels are used, the joint conditional probability of a candidate character in one channel depends on misrecognition in both other channels. Column 11, lines 46-62. Thus, as the number of channels are added or deleted, the joint conditional probability will vary for each character. The use of joint conditional probability is a complex procedure requiring the generation and storage of an N-dimensional matrix of probability factors. Figures 2a to 2c and accompanying text.

The recited confidence indication of claim 1 is based on successful recognition of a candidate character and not on misrecognition of candidate characters in other channels. In the present invention, each candidate character receives a confidence indication independent of the other candidate characters. As such, candidate characters may have identical confidence indications as evidenced by the candidate characters generated by the letters "O" and "I" in the examples given in Figures 1 and 2. Mullan does not teach or suggest a confidence indication based on successful recognition, but teaches a probability based on joint misrecognition. Accordingly, claim 1 is not anticipated by Mullan.

Claim 1 further requires generating a result set for each character in an input string. Each result set includes a list of candidate characters and corresponding confidence indications. Mullan does not generate result sets but instead passes video data into a predefined number of channels. Column 9, line 67 to column 10, line 37. In each channel, a feature comparator

compares the video data to a feature storage and then outputs a character subfield. Column 10, lines 11-37. Mullan does not teach or suggest the generation of a list of candidate characters for each input character. Rather, strings are generated for each channel and then misrecognition probabilities are considered to select a string.

Claim 1 further requires, for each character type, creating a candidate string by concatenating a candidate character with a most favorable corresponding confidence indication of the selected character type. Thus, a selected candidate character must have the correct character type and have greater confidence indication than all other characters in that character type. In order to accomplish this limitation, a list of candidates with associated confidence indications is required. In the examples of Figures 2 and 3, “O” and “Q” candidate characters both have correct character types, but “O” is chosen as it has the most favorable confidence indication.

Mullan teaches away from this limitation because a joint conditional probability is based on the likelihood of misrecognition in all other channels. Thus, there is no possibility of listing candidate characters of like type and selecting the most favorable. Indeed, candidate characters of a like type would have identical probabilities since the probability is based entirely on the likelihood of joint misrecognition of all other channels. Mullan does not disclose selecting between candidate characters of the same type and would be ineffective as many recognition errors occur within the same character type.

It is well settled that under 35 U.S.C. § 102:

an invention is anticipated if . . . all the claim limitations [are] shown in a single art prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim. The identical invention must be shown in as complete detail as is contained in the patent claim.

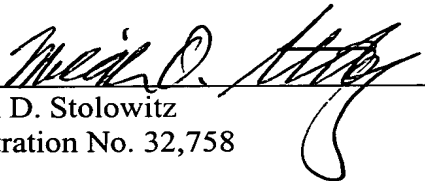
Richardson v. Suzuki Motor Co., Ltd., 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). Mullan cannot anticipate claim 1 as it does not disclose the above-discussed limitations. Mullan also cannot suggest claim 1 as it teaches away from the present invention by using joint conditional probabilities based on likely misrecognition.

As depending claims 2 through 6 include all the limitations of independent claim 1, they likewise contain patentable subject matter.

Applicant believes the application is now in condition for allowance and respectfully requests the same. The Examiner is encouraged to telephone the undersigned if any issues remain.

Respectfully submitted,

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Appendix